

REMARKS

Claims 1-21 are currently pending in the present application, with Claims 1, 10, 14, and 18 being amended. Reconsideration and reexamination of the claims are respectfully requested.

The Examiner rejected Claims 1-5, 7-8, 10-13, and 18-21 under 35 U.S.C. § 103(a) as being unpatentable over Gasper (U.S. Patent No. 4,884,972) in view of Yamada (U.S. Patent No. 5,657,415) and Stelovsky (U.S. Patent No. 5,613,909). This rejection is respectfully traversed with respect to the amended claims.

The present invention is directed to a method and apparatus for animating a video object whereby the animated object moves in accordance with music. Specifically, after music control information, such as MIDI data, is provided along with a corresponding timing signal, music and video images are then generated whereby the video image is generated in response to the timing signal, and whereby the movement of the video image is controlled by using pre-set motion parameters and further controlling the video image using the music control information provided.

None of Gasper, Yamada, or Stelovsky teach or suggest setting a basic parameter for a video image animation and then using music control information to further control the movement of the video image. Rather, Gasper simply discloses an education system with speech synchronized animation. As shown in Figs. 2a-2r of Gasper, monitor 27 displays alphabet tiles 28 and a face object 36. A set of three tiles is then selected on the monitor to input the word "CAT." Thereafter, the face object 36 is animated to pronounce "cat." In Gasper, the movement of the video image is controlled in accordance with the inputted word. As the Examiner acknowledges, Gasper does not teach setting motion parameters to frame the moveable parts of a video image, and does not disclose or suggest providing a timing signal. Furthermore, Gasper does not disclose or suggest using music control information to further control the video image. In fact, Gasper does not even disclose providing music control information. Rather, Gasper simply shows an audio input 9 for receiving sound signals.

Similarly, Yamada discloses a device for use with a TV telephone set to reproduce moving pictures from motion parameters extracted from a speech. As shown in Fig. 1 of Yamada, the apparatus includes: a circuit for extracting from input information 101 a motion parameter 102, a circuit 13 for memorizing a video sequence, and a circuit 12 for reading a video sequence corresponding to the extracted motion parameter to synthesize a moving picture. As described in Col. 6, lines 13-21, the input information may include sound signal, text data, and video. The sound signal is analyzed to extract therefrom a motion parameter. Like Gasper, Yamada does not disclose or teach using music control information, such as MIDI data, to control the movements of a video image. In fact, like Gasper, Yamada does not contain any disclosure whatsoever related to providing or using music control information.

Finally, Stelovsky simply discloses a time-segmented multimedia game player and associated authoring system. As illustrated in Fig. 2 of Stelovsky, the authoring system divides multimedia material, such as music video, along a time axis, and allocates game elements such as "items" and "points" in text basis in order to appropriate segments of the multimedia material. Nowhere in Stelovsky does it disclose providing music control information or using the provided music control information to control the motions of an animation.

Accordingly, none of Gasper, Yamada, or Stelovsky contain any disclosure or suggestion whatsoever of providing music control information or using such information to control the movements of a video image (as recited in Claim 1, and similarly recited in Claims 10 and 18). Hence, Applicants respectfully submit that Claims 1-5, 7-8, 10-13, and 18-21 are not anticipated by, nor obvious in view of, Gasper, Yamada, or Stelovsky, either alone or any combination thereof.

The Examiner rejected Claims 6 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Gasper, Yamada, and Stelovsky and further in view of Suzuki et al. (U.S. Patent No. 6,227,968 B1). This rejection is respectfully traversed.

Applicants note that Suzuki was filed in the U.S. on July 21, 1999, well after the present invention was filed in the U.S. on November 20, 1998. Although Suzuki was filed in Japan on July 24, 1998, such priority date may not be used as prior art reference date against the present application (See 35 U.S.C. § 102(e), § 119(e)). Accordingly, the Examiner incorrectly cited Suzuki as prior art against the present application, and the rejection against Claims 6 and 9 should therefore be withdrawn.

The Examiner rejected Claims 14, 15, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Stelovsky in view of Yamada. This rejection is respectfully traversed with respect to the amended claims.

As discussed above, neither Yamada nor Stelovsky contain any disclosure or suggestion whatsoever of providing performance information to generate music. Furthermore, neither reference disclose or suggest using such performance information, in conjunction with motion parameters, to control the motions of a video image (as recited in Claim 14). Accordingly, Applicants respectfully submit that Claims 14, 15, and 17 are not anticipated by, either Yamada or Stelovsky, either alone or the combination thereof.

The Examiner rejected Claim 16 under 35 U.S.C. § 103(a) as being unpatentable over Stelovsky and Yamada further in view of Gasper. This rejection is respectfully traversed with respect to the amended claims.

As discussed above, neither Yamada nor Stelovsky contain any disclosure or suggestion whatsoever of providing performance information to generate music. Furthermore, neither reference disclose or suggest using such performance information to control the motions of a video image. Gasper does not make up for the deficiencies of Stelovsky and Yamada. Specifically, Gasper does not disclose using performance information to generate music, or using such performance information to control the motions of an animation. Accordingly, Applicants respectfully submit that Claim 16 is not anticipated by, nor obvious in view of, Yamada, Stelovsky, or Gasper, either alone or any combination thereof.

In view of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. Reconsideration and reexamination of the claims, as amended, are respectfully requested, and an early allowance is solicited. If the Examiner believes it would advance the prosecution of the present application, he is respectfully requested to contact the undersigned attorney.


Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 393032005200.

Respectfully submitted,

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By:


David T. Yang
Registration No. 44,415

Morrison & Foerster LLP
555 West Fifth Street
Suite 3500
Los Angeles, California 90013-1024
Telephone: (213) 892-5587
Facsimile: (213) 892-5454

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 10, 14, and 18 were amended in the following manner:

1. (Amended) A system for animating an object along [a] with music, said system comprising:

a sequencer module that sequentially provides music control information and a synchronization signal in correspondence with the music to be played;

a parameter setting module operable to set motion parameters effective to determine movements of movable parts of the object;

an audio module [responsive to the synchronization signal] for generating a sound in accordance with the music control information to thereby play the music; and

a video module responsive to the synchronization signal for generating a motion image of the object in matching with progression of the music, the video module utilizing the motion parameters to basically control the motion image and utilizing the music control information to further control the motion image in association with the played music.

10. (Amended) An apparatus for animating an object along [a] with music, said apparatus comprising:

sequencer means for sequentially providing performance data of the music and a timing signal regulating progression of the music;

setting means operable for setting motion parameters to design a movement of the object;

audio means [responsive to the timing signal] for generating a sound in accordance with the performance data to thereby perform the music; and

video means responsive to the timing signal for generating a motion image of the object in matching with the progression of the music, the video means utilizing the motion parameters to form a framework of the motion image and further utilizing the performance data to modify the framework in association with the performance music.

14. (Amended) A method of animating an object in association with [a] music, said method comprising the step of:

sequentially providing performance data to perform the music and a timing signal to regulate progression of the music;

provisionally providing motion parameters to design a movement of the object;

generating a sound [in response to the timing signal and] in accordance with the performance data to thereby perform the music; and

generating a motion image of the object in response to the timing signal to match with the progression of the music, wherein the step of generating a motion image comprises utilizing the motion parameters to form a framework of the motion image, and utilizing the performance data to modify the framework in association with the performed music.

18. (Amended) A machine readable medium for use in a computer [system] having a CPU [and animating an object along a music], [the] said medium containing program instructions executable by the CPU for causing the computer system to perform [the] a method for animating an object along with music, said method comprising the steps of:

operating a sequencer module that sequentially provides music control information and a synchronization signal in correspondence with the music to be played;

operating a parameter setting module to set motion parameters effective to determine movements of movable parts of the object;

operating an audio module [in response to the synchronization signal for generating] to generate a sound in accordance with the music control information to thereby play the music; and

operating a video module in response to the synchronization signal [for generating] to generate a motion image of the object in matching with progression of the music, the video module utilizing the motion parameters to [basically] control the motion image and utilizing the music control information to further control the motion image in association with the played music.